

REMARKS

Applicants acknowledge receipt of the Examiner's Office Action dated May 31, 2006. This Office Action rejected all pending claims. Specifically, claims 1-29 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent 6,118,761 issued to Kalkunte ("Kalkunte") in view of U.S. Patent Application Publication No. 2003/0016686 filed by Wynne et al. ("Wynne"). In light of the following remarks, Applicants respectfully request the Examiner's reconsideration and reexamination of all pending claims.

The Office Action asserts that Kalkunte discloses all the limitations of independent claim 1 and 18 except for a transmitting device transmitting high priority data to a high priority buffer in the memory and low priority data to a low priority buffer in the memory. The Office Action asserts that Wynne teaches this missing limitation citing paragraphs 0073 and 0082 in support thereof. Thereafter, the Office Action asserts it would have been obvious to a person of ordinary skill in the art to combine Kalkunte and Wynne since the inventions are analogous. The Office Action also asserts,

"The suggestion motivation would not have been that by indicate the priority of the flows maintain the throughput of the system as well as by and can reducing process time by sending the urgent data without processing internally first."

This suggestion/motivation set forth in the Office Action is not clear. The suggestion/motivation is a mixture of words that cannot be understood. Because the suggestion/motivation cannot be understood, the Office Action has failed to provide a suggestion/motivation for combining Kalkunte and Wynne. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. In teaching or suggestion to make the claimed combination and the reasonable expectation of success, must both be found in the prior art and not based on Applicants' disclosure. The initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that the claimed invention is

directed to obvious subject matter, either the references must expressly or impliedly suggest that the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. MPEP 2142. Given that the Office Action has failed to provide a suggestion or motivation to combine Kalkunte and Wynne, the Office Action has failed to establish a prima facie case of obviousness in rejecting claims 1 and 18.

Dependent claims 6 and 23 are said to be taught in Kalkunte at column 5, lines 25-55 and column 6, lines 55-67. Claims 6 and 23 contain similar limitations. Claim 6 recites:

The method of claim 5 further comprising:
comparing the first data quantity value to a plurality of
predetermined values, wherein the first predetermined
value is one of the plurality of first predetermined
values;
wherein the rate control signal is generated in response to
comparing the first data quantity value to the plurality
of predetermined values.

Kalkunte discloses in general an apparatus and method for generating rate control frames. Fig. 1 of Kalkunte shows a switch 12 in which his invention is employed. Kalkunte's switch 12 includes a congestion monitor 24 configured for detecting a congestion condition in one of the output buffers 20. A congestion condition is detected in a buffer if the stored number of bytes in the buffer exceeds a threshold T1. See column 4, line 64 - column 5, line 8. Upon detecting congestion in an output buffer (e.g., output buffer 20₄), switch 12 outputs rate control frames to respective network nodes, where each rate control frame causes the corresponding network node to operate according to a pre-scribed bandwidth value. See column 5, lines 17-24. In other words, column 4, line 64 – column 5, line 8 discloses switch 12 sending rate control frames (containing bandwidth values) to each network node (i.e., transmitting device) when an output buffer is congested. With continuing reference to Fig. 1 and with further reference to Fig. 3, Kalkunte describes generation of the rate control frames in response to a determination that the stored number of bytes in a transmit buffer exceeds the congestion threshold T1 See, step 48 of Fig. 1. Specifically, a rate controller 32 determines the output transmission rate R_0 for a congested buffer and then calculates assigned bandwidth values by multiplying a corresponding

normalized input data rate with the output transmission rate R_0 . Rate control 32 then outputs rate control frames to the transmitting network nodes as shown in step 52.

The Office Action asserts that claim 6's requirement of comparing the first data quantity value to a plurality of predetermined values can be found in column 5, lines 25-55. Applicants have reviewed column 5, lines 25-55 and can find no teaching or fair suggestion of this limitation. Rather, column 5, lines 25-55 describes a traffic monitor for monitoring network traffic throughout switch 12. The monitor 30 monitors for each output buffer 20 the total network traffic received by the output buffer 20 as well as the relative contribution by each input buffer 18 to the total network traffic received by one network switch port 20. Column 5, lines 25-55 also describes that congestion can occur in an output buffer if the combination of r_{14} , r_{24} , and r_{34} exceeds R_4 for time period T , in which r_{14} is the rate of traffic between ports 1 and 4, r_{24} is the rate of traffic between ports 2 and 4, r_{34} is the rate of traffic between ports 3 and 4, and T is a time period. The cited section is less than clear since it does not define R_4 . While column 5, lines 25-55 of Kalkunte is less than clear, this cited section does not teach or fairly suggest comparing a first data quantity value to a plurality of determined values, either alone or in combination with the remaining limitations of claim 6. While Kalkunte might describe generation of a rate control signal in response to comparing the quantity of data within a buffer to a single threshold $T1$, column 5, lines 25-55 and column 6, lines 55-67 fail to teach or fairly suggest comparing a first data quantity value to a plurality of values or generating a rate control signal in response to comparing the first quantity value to a plurality of predetermined values. For these reasons, claims 6 and 23 are patentably distinguishable over the combination of Kalkunte and Wynne.

Dependent claims 7 and 15 are said to be taught by Kalkunte. Claims 7 and 15 are similar to each other. Claim 7 recites:

The method of claim 5 further comprising:
generating a second data quantity value representing a
quantity of data stored in the memory device at a
second point in time, wherein the second point in time
is prior to the first point in time;
comparing the first data quantity value to the second data
quantity value;
wherein the rate control signal is generated if the first data
quantity value is not equal to the second data quantity
value.

While Kalkunte might describe generating a second data quantity value representing a quantity of data stored in an output buffer after the generation of a first data quantity value representing a quantity of data stored in the buffer, the cited sections of Kalkunte fail to teach or fairly suggest comparing the first data quantity value with the second data quantity value, either alone or in combination with the remaining limitations of claim 7. The Office Action asserts that Kalkunte describes comparing the claimed first quantity value and the second quantity value in column 7, lines 1-10. Applicants have reviewed this section of Kalkunte and disagree with the Examiner's assessment. Column 7, lines 1-10 recite:

...switch port 20₄ in step 52. As described below with respect to FIGS. 4 and 5, the rate control frames output from the remaining network switch ports to the respective network nodes 14 cause the nodes to operate according to the corresponding bandwidth value assigned by the network switch, such that the total rate of data traffic into the congested output buffer 20_x equals the output transmission rate (R_o). Depending upon the network topology, the output rate of the transmit buffer (R_o) may equal the wire rate (e.g., 100 Mb/s), or may be equal a lower data rate for half-duplex transmission.

The foregoing simply teaches the affect on network nodes 14 after they receive rate control frames. Column 7, lines 1-7 do not teach comparing the quantity of data stored in a buffer at two distinct points of time, either alone or in combination with the remaining limitations of dependent claim 7. Accordingly, Applicants assert that claims 7 and 15 are patentably distinguishable over the combination of Kalkunte and Wynne.

Dependent Claim 8 recites subtracting the total output data output count from the total data input count. The Office Action asserts this subtracting act is taught in column 5, lines 40-67 of Kalkunte. Column 5, lines 40-67 teaches subtracting the combination of r_{14} , r_{24} , and r_{32} from R_4 . However, as noted in column 5, lines 31-35, r_{14} , r_{24} , and r_{34} do not represent a total data output count; r_{14} , r_{24} , and r_{34} represent respective data rates between ports. Applicants assert there is a clear distinction between Kalkunte's rates between ports and claim 8's total output count. Given this difference, claim 8 is patentably distinguishable over the combination of Kalkunte and Wynne.

The Office Action asserts that Kalkunte discloses the limitations set forth in claim 3, 12, 20, and 26. **Dependent claim 3** recites the transmitting device is contained in a switching fabric. Kalkunte, however, clearly states that the transmitting devices (i.e., nodes 14₁ through 14₄) are external to the switching fabric. Kalkunte discloses a network switch 12 that includes switching logic 22, also referred to as a switch fabric for selectively switching a received data packet. A review of Fig. 1 clearly shows that the transmitting devices (network nodes 14₁ – 14₄) are not contained within the switching fabric 22, even when the term “switching fabric” is extended to network switch 12. Accordingly, Applicants assert that claim 3 is patentably distinguishable over the combination of Kalkunte and Wynne. Claims 12, 20, and 26 contain similar limitations. Accordingly, claims 12, 20, and 26 are patentably distinguishable over the combination of Kalkunte and Wynne for the same reasons that claim 3 is patentably distinguishable.

The Office Action rejected **independent claims 28 and 29** based upon the rationale used to reject similar limitations in claims 1-27. Independent claims 28 and 29, however, contain limitations argued above. For example, independent claim 28 recites generating first and second quantity values representing the quantity of data stored in the memory device of first and second points in time, respectively. These values are compared to each other, and the rate control signal is generated in response to comparing the signals. As argued with reference to claim 7, the cited

sections of Kalkunte do not teach or fairly suggest these limitations. Accordingly, Applicants assert that independent claim 28 is patentably distinguishable over the combination of Kalkunte and Wynn.

Similarly, independent claim 29 recites generating input and output counts at a first point and time, and subtracting the output count from the input count. This limitation is similar to that shown in claim 8 argued above. Applicants assert that independent claim 29 is patentably distinguishable over the combination of Kalkunte and Wynne for the reasons that claim 8 is patentably distinguishable.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5093.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop AE, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia, 22313-1450, on August 18, 2006.


Attorney for Applicant(s)

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Date of Signature

Respectfully submitted,



Eric A. Stephenson
Attorney for Applicant(s)
Reg. No. 38,321
Telephone: (512) 439-5093
Facsimile: (512) 439-5099